

SUTRO TOWER®

connection

THE NEWSLETTER FOR THE SUTRO TOWER NEIGHBORHOOD | JUNE 2015



Antennas, conduit and other parts of the building are being repainted to be more pleasing when seen from the reservoir trail

New Paint and Landscaping at Sutro Tower

As part of a new agreement with the three neighborhood associations near Sutro Tower, Sutro Tower Inc. has begun a \$150,000 project to make its facility more aesthetically pleasing when viewed from the trail at the adjacent city reservoir.

Already, conduit and exposed equipment on the Sutro Tower facility, and certain antennas and dishes, have been repainted to blend better with the surrounding environment. In addition, Sutro Tower is working with the San Francisco Public Utilities Commission to plant appropriate additional foliage between its building and the reservoir trail. The landscaping plan will be submitted to the Planning Department by September. Sutro Tower Inc. also has committed to study the feasibility and cost of relocating antennas and dishes on the east-facing facade and roof of the main transmission building.

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Sutro Tower's website now includes a special page for its neighbors, www.sutrotower.com/for-our-neighbors/. Any neighbor with a question can always contact Sutro Tower Chief Operating Officer Eric Dausman at 415-681-8850, or email him at info@sutrotower.com.

Notice of Application for New Low Power FM Broadcast Antenna at Sutro Tower

Per the agreement with the neighborhood associations, this notice reports that Sutro Tower will soon file an application for a Building Permit with the Department of Building Inspection for a new low power FM radio station antenna. Chinese Culture & Art Heritage Foundation (CCAHF) has been issued a Construction Permit by the Federal Communications Commission to broadcast from Sutro Tower with a power of one watt. The station call letters will be KQEA. If approved by the City of San Francisco, the antenna will be located approximately 200 feet above ground on an existing antenna mount on the North leg. All of the transmission equipment will be located in a small electronics enclosure inside the tower. No other construction is needed for this project.

As with all applications for new antennas at Sutro Tower, there will be an informational meeting to discuss the project in detail at a later date. That meeting has not yet been scheduled.

Sutro Tower's regular 2015 maintenance work started in June and is expected to conclude in the fall. It will include the annual work on the tower's legs, as well as maintaining the structural steel elements on Level 4 about 550 feet above ground. The work includes scraping away old paint and rust and coating the steel with a high-quality epoxy paint. Also, if the Structural Engineers who inspect the tower find bolts that are nearing the end of their useful life, those will be replaced.

To minimize the noise impact on neighbors, tower workers will use quieter tools as much as possible and use their louder heavy-duty air tools only when absolutely necessary in order to meet maintenance requirements. Louder noise from machinery and tools will be limited to the work hours of 8 a.m. to 5 p.m. Monday through Friday, and there will be no maintenance work on holiday weekends. Sutro Tower Inc. has engaged an independent engineering firm to perform an acoustic study of the noise generated by the equipment at the facility.

Besides normal maintenance, work has begun to add new antennas for various customers, including broadcasters, City government, and emergency providers. The project to add these antennas was reviewed extensively by City Planning Department officials, neighbors and other city residents before the Planning Commission approved it in March. The project includes installation of new steel mounts in various places on the tower and the addition of broadcast antennas, microwave antennas, communication antennas and video cameras. A new satellite antenna will be installed on the site off the tower.

Most of the antenna work will be done this year, though some antennas will not be installed until 2016. This work is not expected to create a lot of noise. Some of the mounts are welded to the tower, but most are bolted.

Work also has begun on a site improvement and erosion control project. This project provides for remediation of the erosion on the south side of the property above some homes on Dellbrook Drive, including installation of a new retaining wall, removal of several blue gum eucalyptus trees, and re-grading the slope. The remediated area will be replanted with shrubs and trees selected by expert arborists and the City Parks Department. The project, approved by the City Planning Commission, will be completed in Summer 2016.

As part of the new agreement with the Midtown Terrace Home Owners Association, the Forest Knolls Neighborhood Organization and the Twin Peaks Improvement Association, each association will receive thousands of dollars a year to support its activities.

Students Get a Hands-On Engineering Lesson

Two dozen physics students from San Francisco's Burton High School saw real-life applications of radio waves and transmission on a field trip to Sutro Tower this spring.

The trip was the second annual visit for physics teacher Amber Zertuche's class. "Visiting Sutro Tower after teaching students the theoretical physics of waves helped students apply their knowledge to the real world," she said. "They were able to see how what we are learning in class is actually applied."

Sutro Tower vice president Eric Dausman demonstrated Ampere's rule, the basis of how all antennas send signals by converting electrical energy to magnetic energy.

The students tested their cell phones to see the different frequencies used for the phones' different functions. The students also toured a television station control room and Sutro Tower's grounds and facility during their visit, which was observed by a member of Mayor Ed Lee's staff.

"It's a real pleasure to show young people how engineering and physics really work," said Dausman. "We're a unique resource for San Francisco education, and I love to host inquisitive students."



Burton High School physics students learn about electrical energy first-hand on a field trip to Sutro Tower



Jessica Placzek reporting for KQED at Sutro Tower

KQED Feature on Sutro Tower

KQED-FM came to Sutro Tower to answer the question, "what's the story behind Sutro Tower's shape?" for a "Bay Curious" segment of its award-winning Morning Edition news report.

Reporter Jessica Placzek's segment aired June 16. (The answer, by the way, is purely for aesthetics — Sutro Tower's profile, tapered in 11 degrees to a "waist" at Level 4 some 550 feet above ground and flaring out 11 degrees from Level 4 to Level 6, was designed by the architectural firm AC Martin to give the tower a special look compared to traditional straight-up broadcast towers because of its prominence in San Francisco.)

During the segment, Placzek also interviewed tower maintenance expert Shane Best about how he changes Sutro Tower's light bulbs.

DID YOU KNOW?

Sutro Tower is 977 feet high, with a base elevation of 834 feet, so its highest antennas are 1,811 feet above sea level.

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New Emission Measurements in the Neighborhood

Sutro Tower Inc. is providing residents with a field meter — as well as training in its usage and in performing necessary calculations — so residents can measure radio frequency emissions in the neighborhood surrounding the Tower at any time. This ability for ad hoc measurements supplements regular readings by independent emission experts from Hammett & Edison at 200 points in the neighborhood, which are submitted to the City and posted online at www.sutrotower.com/safety-and-maintenance/safety-reports/.

Hammett & Edison's 2014 emission measurement report is on the website. The most recent 200-point measurement was conducted earlier this month, after Spanish-language television station KEMO began broadcasting from Sutro Tower.

The residents' meter, along with related equipment including meters and/or isotropic probes, is being bought for the Midtown Terrace Home Owners Association. Two members of the association will be trained to operate the meter consistent with industry standards; these two trainees will perform readings requested by members of the Forest Knolls Neighborhood Organization or the Twin Peaks Improvement Association as well as their own association. Midtown Terrace will be responsible for ownership and maintenance of the metering equipment, with Sutro Tower Inc. paying for regular calibration as called for in the manufacturer's specifications.



Rajat Mathur and a Hammett & Edison intern measuring radio frequency emissions